

2. (Twice Amended) The method of claim 1, wherein the vehicle system controller is selectively activated to control engine idle speed when a battery state of charge is below a predetermined minimum value.

3. (Twice Amended) The method of claim 1, wherein the vehicle further includes a climate control reservoir, and the vehicle system controller is selectively activated to control engine idle speed when a vacuum in the climate control reservoir is below a predetermined minimum level.

4. (Twice Amended) The method of claim 1, wherein the vehicle further includes a brake system reservoir, and the vehicle system controller is selectively activated to control engine idle speed when a vacuum in the brake system reservoir is below a predetermined minimum level.

5. (Twice Amended) The method of claim 1, wherein the vehicle further includes a vapor canister, and the vehicle system controller is selectively activated to control engine idle speed when the vapor canister requires purging.

6. (Twice Amended) The method of claim 1, wherein the vehicle further includes an adaptive fuel table, and the vehicle system controller is selectively activated to control engine idle speed when the adaptive fuel table requires fast adaptive learning.

7. (Twice Amended) The method of claim 1, wherein the vehicle system controller is selectively activated to control engine idle speed when the engine has cooled below a predetermined level.

8. (Twice Amended) The method of claim 1, wherein the vehicle further comprises a catalyst, and the vehicle system controller is selectively activated to control the engine idle speed when the catalyst has cooled below a predetermined level.

9. (Twice Amended) The method of claim 1, wherein the vehicle system controller is selectively activated to control engine idle speed when air conditioning has been requested by a vehicle operator.

10. (Twice Amended) The method of claim 1, wherein the vehicle system controller is selectively activated to control engine idle speed when the generator has failed or a battery state of charge exceeds a predetermined maximum level.

11. (Twice Amended) A hybrid electric vehicle including a generator having a rotor assembly operatively coupled to an engine, the hybrid electric vehicle comprising:

a vehicle system controller for controlling idle speed of the engine when a battery state of charge is below a predetermined level and the generator has not failed; and

an engine controller for controlling the idle speed of the engine when the battery state of charge exceeds a predetermined maximum level or the generator fails.

12. (Amended) The method of claim 1, wherein the predetermined first set of operating conditions comprises a low battery state of charge, a low climate control vacuum level, a low brake system reservoir vacuum level, a high fuel tank pressure, the existence of a minimum time period since a last vapor canister purging, the existence of current vapor canister purging, the existence of a learned adaptive fuel table for the current driving mode, a low engine temperature, a low catalyst temperature, and the state of activation of an air conditioning switch.

13. (Twice Amended) The method of claim 1, wherein the predetermined second set of operating conditions comprises a high battery state of charge and a failed generator.

14. (Twice Amended) A method for controlling idle speed of an engine in a hybrid electric vehicle, the vehicle including a battery, a generator operatively coupled to the engine, an engine controller, and a vehicle system controller, the method comprising:

determining whether a set of vehicle idle entry conditions are met, the idle entry conditions being met when the vehicle speed is below a predetermined value and an accelerator pedal is below a predetermined minimum pedal position;

selectively activating the vehicle system controller to control the generator to control engine idle speed when any one of a predetermined first set of operating conditions is present, the first set of operating conditions including a low battery state of charge, a low climate control vacuum level, a low brake system reservoir vacuum lever, a high fuel tank pressure, the existence of a minimum time period since a last vapor canister purging, the existence of current vapor canister purging, the existence of a learned adaptive fuel table for the current driving mode, a low engine temperature, a low catalyst temperature, and the state of activation of an air conditioning switch;

selectively activating the engine controller to control engine idle speed when a predetermined second set of operating conditions is present; and

turning off the engine when both the predetermined first set of conditions is not present and the engine has been in a current vehicle idle mode for a predetermined amount of time.

15. (Twice Amended) The method of claim 14, wherein the predetermined second set of operating conditions comprises a high battery state of charge and a failed generator.

16. (Twice Amended) A method for controlling idle speed of an engine in a hybrid electric vehicle, the vehicle including a battery, a generator operatively coupled to the engine, an engine controller, and a vehicle system controller, the method comprising:

determining whether a set of vehicle idle entry conditions are met, the idle entry conditions being met when the vehicle speed is below a predetermined value and an accelerator pedal is below a predetermined minimum pedal position;

selectively activating the vehicle system controller to control the generator to control engine idle speed when any one of a predetermined first set of operating conditions is present;

selectively activating the engine controller to control engine idle speed when a predetermined second set of operating conditions is present, the predetermined second set of operating conditions including a high battery state of charge and a failed generator; and

turning off the engine when both the predetermined first set of conditions is not present and the engine has been in a current vehicle idle mode for a predetermined amount of time.